

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A photodetector comprising:

an operational amplifier having an inverting terminal and an output terminal;

a photodiode connected to ~~an~~ the inverting terminal of the operational amplifier for outputting a signal corresponding to a quantity of light to be detected;

a plurality of feedback resistors, each being differentiated in each resistance value, one of said feedback resistors having a maximum resistance value and being coupled between the inverting terminal and the output terminal of the operational amplifier;

~~an a first~~ analog switch for selectively connecting one end of each feedback resistor, other than the resistor having a maximum resistance value, to an input terminal thereof to which one ends of the feedback resistors are connected terminal and connecting the other end to an the output terminal of the operational amplifier ~~except the feedback resistor having the maximum resistance value, or connecting the input terminal thereof which is rendered in a non-connection state to the output terminal of the operational amplifier instead of the feedback resistor having the maximum resistance value;~~

~~wherein the feedback resistor having the maximum resistance value is connected to the output terminal of the operational amplifier at its one end and to the inverting input terminal of the operational amplifier at its other end; and~~

a second analog switch that is used for selecting at least among (1) the output terminal of the operational amplifier, and (2) an end of one of the plurality of feedback resistors to externally output an output voltage,

wherein the other ends of the other feedback resistors are connected to the inverting input terminal of the operational amplifier.

2. (original): ~~The photodetector according to Claim 1~~ A photodetector comprising:
an operational amplifier having an inverting terminal and an output terminal;
a photodiode connected to the inverting terminal of the operational amplifier for
outputting a signal corresponding to a quantity of light to be detected;
a plurality of feedback resistors, each being differentiated in resistance value, one of said
feedback resistors having a maximum resistance value and being coupled between the inverting
terminal and the output terminal of the operational amplifier; and
a first analog switch for selectively connecting one end of each feedback resistor, other
than the resistor having a maximum resistance value, to an input terminal and connecting the
other end to the output terminal of the operational amplifier;
wherein the other ends of the other feedback resistors are connected to the inverting input
terminal of the operational amplifier, and
wherein at least one of said feedback resistors comprises a first resistor portion
comprising one of said feedback resistors and a second resistor portion connected in series with
said first resistor portion, said second resistor portion having a higher resistance value than said
first portion but less than the resistance of said maximum feedback resistor ~~the other end of the~~
~~feedback resistor having high resistance value of the other feedback resistors is serially~~
~~connected to the feedback resistor having a small resistance value.~~

3. (currently amended): The photodetector according to Claim 1 ~~or~~ 2, further comprising a second analog switch that is used for selecting among (1) the output terminal of the operational amplifier ~~to externally output as an output voltage in the case where the analog switch selects the input terminal thereof which is rendered in a non-connection state instead of one end of the feedback resistor having the maximum resistance value, or the input terminals thereof to which one ends,~~ (2) an end of one of the plurality of feedback resistors, other than the first resistor portion, and (3) an end of each of said first resistor portion and said second resistor portion ~~of the serially connected feedback resistors are connected, thereby connecting the selected input terminals to the output terminal of the operational amplifier and for selecting one~~

~~ends of the feedback resistors to externally output as the an output voltage, in the same manner as the analog switch selects in the case where the analog switch selects the input terminal which is rendered in a non-connection state, or the input terminals thereof to which one ends of the feedback resistor are connected except the input terminals thereof to which one ends of the serially connected feedback resistors are connected.~~

4. (original): The photodetector according to Claim 3 further comprising
an additional feedback resistor connected to the output terminal of the operational amplifier at its one end and to the inverting input terminal of the operational amplifier at its other end and having a resistance value which is higher than the feedback resistor having the maximum resistance value; and

a mechanical relay for connecting/disconnecting the other ends of the feedback resistors other than the additional feedback resistor to and from the inverting input terminal of the operational amplifier.

5. (original): The photodetector according to Claim 4, further comprising a second mechanical relay for grounding the other ends of the feedback resistors other than the additional feedback resistor in the case where the other ends of the feedback resistors other than the additional feedback resistor is disconnected from the inverting input terminal of the operational amplifier.

6. (new): A photodetector according to Claim 1 further comprising:
an additional feedback resistor connected to the output terminal of the operational amplifier at its one end and to the inverting input terminal of the operational amplifier at its other end and having a resistance value which is higher than the feedback resistor having the maximum resistance value; and

a mechanical relay for connecting/disconnecting the other ends of the feedback resistors other than the additional feedback resistor to and from the inverting input terminal of the operational amplifier.

7. (new): The photodetector according to Claim 6, further comprising a second mechanical relay for grounding the other ends of the feedback resistors other than the additional

. Amendment under 37 C.F.R. § 1.111
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feedback resistor in the case where the other ends of the feedback resistors other than the additional feedback resistor is disconnected from the inverting input terminal of the operational amplifier.